

**LEAD ORGANIZATION: Boeing**

**PROJECT: Condition Monitoring Sensor Array (CMSA)**

**ABSTRACT**

The Condition Monitoring Sensor Array (CMSA) project implements Flexible Hybrid Electronic (FHE) approaches to provide an integrated sensor system Technology Platform Demonstrator (TPD) with at least four integrated sensors for condition monitoring that includes multiple sensor acquisition, communication protocols, and power in a Size, Weight and Power (SWAP) efficient applique. The CMSA project will mature the manufacturing processes over an 18 month period to achieve a Technology Readiness Level (TRL)/Manufacturing Readiness Level (MRL) 7 TPD. The first two quarters will develop a functional design and integrate the team member's preferred mature products into a brassboard evaluation system. The second two quarters will address the design weaknesses, methods to better integrate CMSA elements, and improved power management approaches to produce prototype CMSA devices that can be used for performance metric evaluation. The last two quarters will execute assessments of the prototype devices and further refine improvements that leads to production and delivery of 25 TPDs to NextFlex.



*Overcome cabling, access and sensor system size constraints to enable point-of-interest condition monitoring of equipment, test platforms, logistics items and more.*